

CLAIMS

What is claimed is:

Signatures
1. A method for controlling access to a server device by at least one client device that is operatively coupled to the server device through at least one interconnecting network, the method comprising:

causing a user-side portion of a network server logic within the server device to selectively specify at least one network from which the user-side portion would accept client device information; and

causing a kernel-side portion of the network server logic to accept the client device information only if the client device information has been provided via the specified network.

2. The method as recited in Claim 1, further comprising:

if the client device information has not been provided via the specified network, causing the kernel-side portion to reject the client device information and notify the client device in a manner that identifies the rejection.

3 The method as recited in Claim 2, wherein the kernel-side portion notifies the client device using at least one message selected from a group of messages comprising a TCP reset message and an ICMP destination unreachable message, as applicable.

4. The method as recited in Claim 1, further comprising:

providing a communication socket for use by the kernel-side portion; and

causing the kernel-side portion to compare client device information received on the communication socket to the specified network.

5. The method as recited in Claim 1, wherein causing the user-side portion to selectively specify at least one network from which the user-side portion would accept the client device information, further includes causing the user-side portion to selectively specify a plurality of networks from which the user-side portion would accept the client device information; and

wherein causing the kernel-side portion to accept the client device information only if the client device information has been provided via the specified network, further includes causing the kernel-side portion to accept the client device information only if the client device information has been provided via at least one of the specified plurality of networks.

6. The method as recited in Claim 1, wherein causing the user-side portion to selectively specify the at least one network from which the user-side portion would accept the client device information further includes having the user-side portion specify at least one local network interface.

7. The method as recited in Claim 1, wherein causing the user-side portion to selectively specify the at least one network from which the user-side portion would accept the client device information further includes having the user-side portion specify at least one IP address.

8. The method as recited in Claim 1, wherein the network server logic is operatively configured to support at least one client-server based process selected from a group of processes comprising a file-sharing communication process, a TCP-based communication process, a UDP-based communication process, a HTTP-based communication process, a digital media based communication process, a DNS-based communication process, and a database related communication process.

9. The method as recited in Claim 1, wherein the user-side portion includes an application-programming interface (API) operatively configured to allow an application to specify the at least one network from which the user-side portion would accept the client device information.

10. The method as recited in Claim 9, wherein the API is further operatively configured to allow the application to specify a listing of networks from which the user-side portion would accept the client device information.

11. The method as recited in Claim 10, wherein the API is further operatively configured to allow the application to selectively modify the listing of networks from which the user-side portion would accept the client device information.

12. The method as recited in Claim 1, wherein the kernel-side portion includes a TCP/IP driver.

13. A computer-readable medium having computer-executable instructions for performing steps comprising:

causing a user-side portion of a network server logic within a server device to selectively specify at least one network from which the user-side portion would accept client device information; and

causing a kernel-side portion of the network server logic to accept the client device information only if the client device information has been provided via the specified network.

14. The computer-readable medium as recited in Claim 13, further comprising computer-executable instructions for:

if the client device information has not been provided via the specified network, causing the kernel-side portion to reject the client device information and notify the client device in a manner that identifies the rejection.

15 The computer-readable medium as recited in Claim 14, wherein the kernel-side portion notifies the client device using at least one message selected from a group of messages comprising a TCP reset message and an ICMP destination unreachable message, as applicable.

16. The computer-readable medium as recited in Claim 13, further comprising computer-executable instructions for:

providing a communication socket for use by the kernel-side portion; and
causing the kernel-side portion to compare client device information received on the communication socket to the specified network.

17. The computer-readable medium as recited in Claim 13, wherein causing the user-side portion to selectively specify at least one network from which the user-side portion would accept the client device information, further includes causing the user-side portion to selectively specify a plurality of networks from which the user-side portion would accept the client device information; and

wherein causing the kernel-side portion to accept the client device information only if the client device information has been provided via the specified network, further includes causing the kernel-side portion to accept the client device information only if the client device information has been provided via at least one of the specified plurality of networks.

18. The computer-readable medium as recited in Claim 13, wherein causing the user-side portion to selectively specify the at least one network from which the user-side portion would accept the client device information further includes having the user-side portion specify at least one local network interface.

19. The computer-readable medium as recited in Claim 13, wherein causing the user-side portion to selectively specify the at least one network from which the user-side portion would accept the client device information further includes having the user-side portion specify at least one IP address.

20. The computer-readable medium as recited in Claim 13, wherein the network server logic is operatively configured to support at least one client-server based process selected from a group of processes comprising a file-sharing

communication process, a TCP-based communication process, a UDP-based communication process, a HTTP-based communication process, a digital media based communication process, a DNS-based communication process, and a database related communication process.

21. The computer-readable medium as recited in Claim 13, wherein the user-side portion includes an application-programming interface (API) operatively configured to allow an application to specify the at least one network from which the user-side portion would accept the client device information.

22. The computer-readable medium as recited in Claim 21, wherein the API is further operatively configured to allow the application to specify a listing of networks from which the user-side portion would accept the client device information.

23. The computer-readable medium as recited in Claim 22, wherein the API is further operatively configured to allow the application to selectively modify the listing of networks from which the user-side portion would accept the client device information.

24. The computer-readable medium as recited in Claim 13, wherein the kernel-side portion includes a TCP/IP driver.

25. A method for establishing per-socket interface listings, the method comprising the steps of:

- a) issuing, by a user-side application, at least one network identifier from which the user-side application would accept client device information;
- b) receiving, by a user-side portion of a network server process, the at least one network identifier;
- c) issuing, by the user-side portion, the at least one network identifier; and
- d) receiving, by a kernel-side portion of a network server process, the at least one network identifier.

26. An apparatus comprising:
memory; and
network server logic, operatively coupled to the memory and configurable to support at least one client-server communication session, the network server logic having:

a user-side portion that is configured to selectively specify at least one network from which the user-side portion would accept client device information, and

a kernel-side portion that is configured to accept the client device information only if the client device information has been provided via the specified network.

27. The apparatus as recited in Claim 26, wherein if the client device information has not been provided via the specified network, the kernel-side

portion is further configured to reject the client device information and notify the client device in a manner that identifies the rejection.

28 The apparatus as recited in Claim 27, wherein the kernel-side portion is configured to notify the client device using at least one message selected from a group of messages comprising a TCP reset message and an ICMP destination unreachable message, as applicable.

29. The apparatus as recited in Claim 26, further comprising:
a communication socket for use by the kernel-side portion during the communications session, and wherein the kernel-side portion is further configured to compare client device information received on the communication socket to the specified network.

30. The apparatus as recited in Claim 26, wherein is further configured to selectively specify a plurality of networks from which the user-side portion would accept the client device information; and

wherein the kernel-side portion is further configured to accept the client device information only if the client device information has been provided via at least one of the specified plurality of networks.

31. The apparatus as recited in Claim 26, wherein the user-side portion is further configured to specify at least one local network interface.

32. The apparatus as recited in Claim 26, wherein the user-side portion is further configured to specify at least one IP address.

33. The apparatus as recited in Claim 26, wherein the communication session is further configured to support at least one communication process selected from a group of communication processes comprising a file-sharing communication process, a TCP-based communication process, a UDP-based communication process, a HTTP-based communication process, a digital media based communication process, a DNS-based communication process, and a database related communication process.

34. The apparatus as recited in Claim 26, wherein the user-side portion includes:

an application-programming interface (API) operatively configurable to allow an application to specify the at least one network from which the user-side portion would accept the client device information.

35. The apparatus as recited in Claim 34, wherein the API is further operatively configurable to allow the application to specify a listing of networks from which the user-side portion would accept the client device information.

36. The apparatus as recited in Claim 35, wherein the API is further operatively configurable to allow the application to selectively modify the listing of networks from which the user-side portion would accept the client device information.

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37. The apparatus as recited in Claim 26, wherein the kernel-side portion includes a TCP/IP driver.